



INTEGRAL UNIVERSITY, LUCKNOW
INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH

DEPARTMENT OF PARAMEDICAL SCIENCES

**BACHELOR OF MEDICAL LABORATORY SCIENCE
(BMLS)**

SYLLABUS

YEAR/ SEMESTER: IV/VII



Integral University, Lucknow
Department of Paramedical Sciences
Study and Evaluation Scheme

Program: BMLS

Semester-VII

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
THEORIES													
1	LS401	Internship-I	Core	0	0	1200	00	00	00	100	100	30	30
Total				0	0	1200	00	00	00	100	100	30	30

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
THEORIES											
1	LS401	Internship-I	Core	√	√	√			√	√	3,4

L: Lecture T: Tutorials P: Practical CT: Class Test TA: Teacher Assessment ESE: End Semester Examination,
AE= Ability enhancement, DSE- Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment **Subject Total:** Sessional Total + End Semester Examination (ESE)

Effective from Session: 2026-27							
Course Code	LS401	Title of the Course	INTERNSHIP-I	L	T	P	C
Year	IV	Semester	VII	0	0	1200	30
Pre-Requisite	Nil	Co-requisite	Nil				
Course Objectives	To ensure complete and comprehensive knowledge of all medical laboratory examinations done in a hospital or diagnostic center.						

Course Outcomes	
CO1	To demonstrate clinical competence through critical emergency laboratory technique.
CO2	To select, perform and interpret appropriate clinical laboratory examination.
CO3	To identify and evaluate resources that relate to the ethical, moral and legal foundations of medical laboratory department.
CO4	To articulate how physical, social and cultural background impact a patient's likelihood during laboratory technique examination in any situation
CO5	To apply Clinical Expertise in Comprehensive Medical laboratory technique.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	COMPREHENSIVE LABORATORY TECHNIQUE	The students are required to do internship for one full year (i.e., 7 th and 8 th semester) either from the Department of Medical Laboratory, Integral Institute of Medical Sciences & Research or from any other recognized institute/hospital after getting an NOC from the Department of Paramedical Sciences, IIAHSR.	1200	CO 1-5

Reference Books:	
1.	McMinn's Last's Anatomy-Regional and applied, Churchill Livingstone.
2.	Fundamentals of Biochemistry-by Dr. Deb Jyoti Das,
3.	Harshmohan (2017), Textbook of Pathology, 7th edition, Jaypee Publications.
4.	Bancroft's Theory and Practice of Histological Techniques, 7th Edition, Elsevier Publications
5.	Medical Entomology by A.K. Hati, Pub. Allied Book Agency.

e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	1	3	1	2	-	-	-	1	2	-	-	2	2	1	-	1
CO2	1	3	1	3	-	-	-	1	3	-	-	3	3	2	-	1
CO3	1	3	1	2	-	-	-	1	2	-	-	2	3	1	-	1
CO4	1	3	1	2	-	-	-	1	3	-	-	3	2	1	-	1
CO5	1	3	1	2	-	-	-	1	2	-	-	2	2	1	-	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation
Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
LS401	INTERNSHIP-I	√	√	√			√	√	3,4



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(BMLS)
SYLLABUS**

YEAR/ SEMESTER: IV/VIII



Integral University, Lucknow
Department of Paramedical Sciences
Study and Evaluation Scheme

Program: BMLS

Semester-VIII

S. N.	Course code	Course Title	Type of Paper	Period Per hr./week/Sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
THEORIES													
1	LS402	Internship-II	Core	0	0	1140	00	00	00	100	100	28	28
2	LS403	Project Work	Core	0	0	80	00	00	00	100	100	04	04
Total:				0	0	1220	00	00	00	200	200	32	32

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
THEORIES											
1	LS402	Internship-II	Core	√	√	√	√		√	√	3,4
2	LS403	Project Work	Core	√	√	√	√		√	√	3,4

L: Lecture **T:** Tutorials **P:** Practical **CT:** Class Test **TA:** Teacher Assessment **ESE:** End Semester Examination,
 AE= Ability enhancement, DSE- Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment **Subject Total:** Sessional Total + End Semester Examination (ESE)



Integral University, Lucknow

Effective from Session: 2026-27							
Course Code	LS402	Title of the Course	INTERNSHIP-II	L	T	P	C
Year	IV	Semester	VIII	0	0	1140	28
Pre-Requisite	Nil	Co-requisite	Nil				
Course Objectives	To ensure complete and comprehensive knowledge of all medical laboratory examinations done in a hospital or diagnostic center.						

Course Outcomes	
CO1	To demonstrate clinical competence through critical emergency laboratory technique.
CO2	To select, perform and interpret appropriate clinical laboratory examination.
CO3	To identify and evaluate resources that relate to the ethical, moral and legal foundations of medical laboratory department.
CO4	To articulate how physical, social and cultural background impact a patient's likelihood during laboratory technique examination in any situation
CO5	To apply Clinical Expertise in Comprehensive laboratory technique.

Unit No.	Title of the Unit	Content Of Unit	Contact Hrs.	Mapped CO
1	COMPREHENSIVE & SPECIALIZED LABORATORY TECHNIQUE.	Internship is a phase of training where a student is expected to conduct actual practice of clinical laboratory technique and acquire skills under supervision so that he/she may become capable of functioning independently. The students are required to undergo the Internship of One year; therefore, they will continue the internship in the 8 th Semester.	1140	CO1-5

Reference Books:

1. Clinical Parasitology by Paul Chester Beaver.
2. Diagnostic Cytology by Koss Volume -II.
3. Medical laboratory Technology Vol. I, II, III by Mukherjee
4. Bancroft 's Theory and Practice of Histopathological Techniques by John D Bancroft.
5. Adelberg's Medical Microbiology. 26th edition. McGraw Hill Publication.

e-Learning Source:

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
	CO1	1	3	1	2	-	-	-	1	2	-	-	2	2	1	-
CO2	1	3	1	3	-	-	-	1	3	-	-	3	3	2	-	1
CO3	1	3	1	2	-	-	-	1	2	-	-	2	3	1	-	1
CO4	1	3	1	2	-	-	-	1	3	-	-	3	2	1	-	1
CO5	1	3	1	2	-	-	-	1	2	-	-	2	2	1	-	1

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.	
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics		
LS402	INTERNSHIP-II	√	√	√				√	√	3,4



Effective from Session: 2026-27							
Course Code	LS403	Title of the Course	PROJECT WORK	L	T	P	C
Year	IV	Semester	VIII	0	0	80	04
Pre-Requisite	Nil	Co-requisite	Nil				
Course Objectives	To ensure complete and comprehensive knowledge of all Research work related to the department and preparing individual project for the same.						

Course Outcomes	
CO1	Apply the principles of research and biostatistics to health practice including the design and implementation of health-related research studies.
CO2	Plan and execute a research study, including clinical trials.
CO3	Use / organize bio-statistical analysis using computers and software's and prepare reports.
CO4	Critically evaluate research activities.
CO5	To Submit the final Research Project related to Radiology.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	PROJECT WORK	The students are required to do Research project under the guidance of two supervisors, One Internal Guide allotted from within the faculty member and One External Guide from the hospital who can be a senior Radiologist or Technologist. The Topic of the Project will be chosen at the starting of the 7 th Semester and the student will keep working on it. However, the Final Project Report will be submitted before the conduction of the 8 th semester ESE.	80	CO1-5

Reference Books:	
1. Statistical Methods by S.P. Gupta	
2. Methods in biostatistics for medical students by B.K. Mahajan	
3. RPG Biostatistics by Himanshu Tyagi	
e-Learning Source:	
1. https://www.youtube.com/watch?v=UtiVXLO7c9A&list=PLR3kIPR1QzzkV45nZ4_1HIUCbjVNU0iZx	
2. https://www.youtube.com/watch?v=txISON019xU&list=PLEIbY8S8u_DK7i4Fj6Hgg8sn_l42k9H1L	
3. https://www.youtube.com/watch?v=tr8M7jSIYm4	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	1	3	1	2	-	-	-	1	2	-	-	2	2	1	-	1
CO2	1	3	1	3	-	-	-	1	3	-	-	3	3	2	-	1
CO3	1	3	1	2	-	-	-	1	2	-	-	2	3	1	-	1
CO4	1	3	1	2	-	-	-	1	3	-	-	3	2	1	-	1
CO5	1	3	1	2	-	-	-	1	2	-	-	2	2	1	-	1

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
LS403	PROJECT WORK	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	3,4
		√	√	√			√	√	